

Notice of Allowability

Application No.

10/000,148

Examiner

Stefan Staicovici

Applicant(s)

MAXWELL ET AL.

Art Unit

1732

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the misc. communication filed 12/12/2006.
2. ☒ The allowed claim(s) is/are 1-3, 7-10, 12-21, 45-46, 50, 52-66, 101-102 (now renumbered as 1-37).
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date 1/4/07.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☒ Other interview summary 1/8/07.

DETAILED ACTION

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Brian Kacedon on January 8, 2007.

The application has been amended as follows:

- claim 1 has been amended as follows:

1. (Currently amended) A method of manufacturing a molded composite structure, comprising:

preparing a material stack, wherein the material stack comprises a core section having first and second opposing sides, and wherein preparing the material stack comprises:

applying [a] first and second substantially fibrous support layers on [at least on of] the first side and the second opposing side of the core section, wherein the substantially fibrous support layers provide[s] a vacuum path for evacuation of the core section;

applying an adhesive layer on the first and second support layers and on any other surface of the core not covered by the first and second support layers; and

applying a thermoplastic barrier layer on the adhesive layers covering all surfaces of the core;

preparing a resin;

preparing a mold;

placing the material stack in the mold;

evacuating air from the core section of the material stack through the vacuum path provided by the substantially fibrous support layers;

sealing the evacuated core section by curing the adhesive layer to adhere the support layers and thermoplastic barrier layer to the core section such that after sealing, the thermoplastic barrier layer prevents air from entering the core section, thereby forming an evacuated material stack;

infusing the mold and the evacuated material stack with the resin to form the structure;

curing the structure; and

removing the structure from the mold.

- claim 45 has been amended as follows:

45. (Currently amended) A method of manufacturing a molded composite structure, comprising:

preparing at least one material stack, wherein the material stack comprises a core section and cavities, wherein the core section comprises first and second opposing sides, and wherein preparing the material stack comprises:

applying [a] first and second substantially fibrous support layers on [at least on of] the first side and the second opposing side of the core section, wherein the substantially fibrous support layers provide[s] a vacuum path for evacuation of the core section;

applying an adhesive layer on the first and second support layers and on any other surface of the core not covered by the first and second support layers; and

applying a thermoplastic barrier layer on the adhesive layers covering all surfaces of the core;

preparing a resin;

preparing a first tool to form an exterior shape of the structure;

preparing a second tool to form an interior shape of the structure;

integrating the second tool with the material stack;

placing the material stack with the second tool inside of the first tool;

evacuating air from the core section of the material stack through the vacuum path provided by the substantially fibrous support layers;

sealing the evacuated core section by curing the adhesive layer to adhere the support layers and thermoplastic barrier layer to the core section such that after sealing, the thermoplastic barrier layer prevents air from entering the core section, thereby forming an evacuated material stack;

infusing the first tool with the resin until the cavities in the evacuated material stack are filled with resin to form the structure;

curing the structure;

removing the structure from the first tool; and

removing the second tool from the structure.

2. The following is an examiner's statement of reasons for allowance: the prior art does not teach or suggest a process for making a molded composite structure including,

forming a material stack by, applying first and second substantially fibrous support layers on a first and second opposing sides of a core section, applying an adhesive layer on the first and second support layers and on any other surface of the core not covered by the first and second support layers and, applying a thermoplastic barrier layer on the adhesive layers covering all surfaces of the core,

placing the material stack in a mold,

evacuating air from the core section of the material stack through a vacuum path provided by the substantially fibrous layers,

sealing the evacuated core section by curing the adhesive layer to adhere the support layers and the thermoplastic barrier layer to the core section such that after sealing the thermoplastic barrier layer prevents air from entering the core section to thereby form an evacuated material stack,

infusing the mold and evacuated material stack to form the structure,

curing the structure and removing the structure from the mold.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

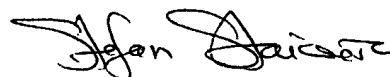
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Conclusion

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stefan Staicovici, Ph.D. whose telephone number is (571) 272-1208. The examiner can normally be reached on Monday-Friday 9:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson, can be reached on (571) 272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


STEFAN STAICOVICI, PHD
PRIMARY EXAMINER
Au 1732 1/9/07

AU 1732

January 9, 2007